



MATHEMAGIC

- THE HAT TRICK -



Educational Goals

- ❖ Recognize the operation to be done in a situation
- ❖ Express a situation with mathematical operations
- ❖ Develop the ability to find a constant element in a mathematical situation
- ❖ Develop logic

Key Features of the Targeted Competencies

- ❖ To decode the elements that lend themselves to a mathematical treatment
- ❖ To represent the situational problem with a mathematical model
- ❖ To elaborate a mathematical solution
- ❖ To validate the solution
- ❖ To share the information relative to the solution
- ❖ To form conjectures
- ❖ To make demonstrations or proofs

Concepts Used

- ❖ Arithmetic (addition, subtraction)
- ❖ Numbers' property

Materials

- ❖ Video of the trick
- ❖ 1 deck of cards

Targeted Academic Levels
Grades 7 to 11

Mathematical Field Concerned



Suggested Teaching Formula



Time Required
Approximately 25 minutes



SUGGESTED PROCESS



Step 1: Introduction (5 minutes)

Play the video of the magic trick once (www.amazingmaths.ulaval.ca).

You will find the steps to follow to do this magic trick yourself rather than play the video in the Explanation Sheet for the trick “The Hat Trick”.

Step 2: Finding the solution (15 minutes)

Place the students in teams of 2 or 3. Ask the students to recreate the trick while discussing to find the solution. Ask them to focus on the positions of the cards in the deck.

To help them in their progression, you can advise them to place the 3 cards chosen by the spectator face up in the deck. This will allow them to follow the position of these cards in the deck.

The goal is not only to see that the trick works, but to understand why it works every time, no matter what the card chosen by the spectator is.

Step 4: Reveal the solution (5 minutes)

Refer to the Explanation Sheet for the trick “The Hat Trick”.